

REMARKS

Claims 1-18, 37-41, 44 and 55-69 are currently pending in the captioned patent application, of which Claims 1, 7, 37, 55 and 68 are independent claims. Claims 42 and 43 have been cancelled. For at least the reasons set forth below, applicant respectfully requests reconsideration of the Office Action objections and rejections.

Objections to the Drawings – Claims 42 and 43

Claims 42 and 43 have been cancelled from the application, without prejudice or disclaimer of the subject matter they contain. Applicant has cancelled Claims 42 and 43 merely to expedite prosecution of the present application and does not concede the correctness of the Examiner's objection to the drawings in view of the features included in these claims. In any event, applicant submits that consideration of amendments to the drawings is now unnecessary in view of the cancellation of Claims 42 and 43.

Rejections in view of Raines / Gargas

Claims 1, 4-6, 55 and 58-68 stand rejected under 35 U.S.C. §102(b) in view of a patent issued to Raines (U.S. Pat. No. 4,246,932); also, Claims 7, 10-13, 16-18, 37, 40, 41 and 44 stand rejected under 35 U.S.C. §103 as obvious in view of Raines. In addition, Claims 2, 3, 8, 9, 14, 15, 38, 39, 56, 57 and 69 stand rejected in view of a proposed combination of Raines and a patent issued to Gargas (U.S. Pat. No. 4,684,334).

Raines discloses a valve assembly for use in the medical field (i.e., in connection with a syringe S). In an aspiration procedure involving the Raines valve assembly, the syringe is applied to create a pressure gradient in the interior of the assembly. At a predetermined level, the pressure gradient causes a first disc 150 to bias in a flexed position (see Figure 2) that permits fluid communication between the interior of the valve assembly 10 with tubing C via a tubing connector 20. The pressure gradient causes flow through the tubing connector 20 into the interior of the assembly 10. The flow established by such pressure gradient through the tubing connector 20 is around the disc 150 and into cannula K in the interior of the assembly 10. This pressure gradient also biases a second disc 152 onto a disc seat defined by the edges of counterbores 108 and 108' (see Figure 3). Thus, in the aspiration step, valve 150 is open and valve 152 is closed. In this manner, fluid can be drawn from a source (not shown) into the assembly 10 (see Raines, col. 4, line 50 to col. 5, line 14).

Conversely, an injection procedure is carried out in Raines by reversing the above-described aspiration procedure. The pressure gradient established in the interior of the assembly 10 by injecting the syringe S acts on the valve discs 150 and 152. The pressure gradient moves the discs such that the disc 150 abuts the rim 96 and thus occludes the bore 24, and, when the pressure is sufficient, moves the disc 152 away from the disc seat to establish flow path 200' (see Figure 4). In this manner, fluid passes through the flow channel 200' and moves into a bore 124. The fluid drawn into the assembly 10 by the aspiration procedure is thus forced into a receiver (not shown) via the bore 124 by applying the injection step. In the injection step, valve 150 is closed and valve 152 is open (see Raines, col. 5, lines 15-37).

In contrast to Raines, Claim 1 recites a valve assembly with first and second check valves and “an inlet/outlet port in fluid communication with said inlet of said first check valve and said outlet of said second check valve at a common refill/evacuation location.” The structure of the assembly of Claim 1 therefore functions to permit both fluid evacuation operations and fluid refill operations to be accomplished through the “inlet/outlet port” at the “common refill/evacuation location” of the assembly. As noted in applicant's specification, operation of the claimed valve assembly provides that “different types of fluids (e.g., without limitation, engine oil, transmission fluid, hydraulic fluid, coolants, and other machine fluids) can be alternately and/or sequentially evacuated/refilled” (see para. 109). It can be seen that there are at least two kinds of fluid flows that can be passed through the “common refill/evacuation location” of Claim 1, including fluid flow associated with a refill operation and fluid flow associated with an evacuation operation.

In contrast, the Raines assembly only functions to provide a one-way flow from a source (which is not shown or described in Raines), through an interior of its assembly 10, to a receiver (also not shown or described in Raines). There is no teaching or suggestion in Raines of performing an evacuation procedure, for example, from the receiver back to the source. Indeed, even if such an evacuation procedure were suggested by Raines, it is clear that the Raines assembly could not function to draw fluid from the receiver, pass it through the second disc valve 152, transport it through the interior of the assembly 10, pass it through the first disc valve 150, and ultimately deliver it back to the source. For at least the reason that the second disc valve 152 of Raines remains closed and does not permit fluid to pass therethrough when a negative pressure gradient is applied in the interior of its assembly 10, Raines cannot function to

perform the kinds of fluid evacuation operations that can be accomplished by the assembly recited in Claim 1. Moreover, Raines does not disclose or suggest any structure which is functionally equivalent to the “inlet/outlet port in fluid communication with said inlet of said first check valve and said outlet of said second check valve at a common refill/evacuation location” as claimed in Claim 1. It can be appreciated that the “inlet/outlet port” structure facilitates both refill and evacuation fluid operations at the “common refill/evacuation location” from or to a fluid component which is external to the assembly (see, e.g., Figure 34 of the present specification).

Each of independent Claims 7, 37, 55 and 68 are allowable for at least reasons analogous to those described above with regard to Claim 1. Furthermore, Claims 2-6, 8-18, 38-41, 44, 56-67 and 69 depend from, either directly or indirectly, one of independent Claims 1, 7, 37, 55 or 68, and are therefore allowable for the same reasons as the independent claims.

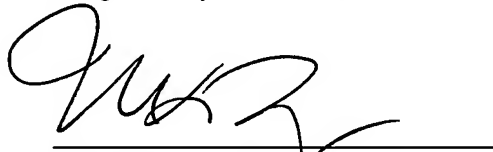
Miscellaneous

Applicant submits that the dependent claims pending herein are allowable at least by virtue of their dependency on independent claims which, as applicants describe above, are patentable over the cited references. Applicant reserves the right, however, to make supplemental arguments as may be necessary, because the dependent claims of the present application include additional features that further distinguish the claims from the cited references. A detailed discussion of these distinctions is believed to be unnecessary at this time in view of the fundamental distinctions already set forth in the above remarks.

SUMMARY

Based on the foregoing remarks, applicant respectfully requests reconsideration and allowance of all pending claims of the present application. Any questions or issues regarding this response are invited to the attention of the undersigned representative by telephone or e-mail, so that such questions or issues can be addressed expeditiously.

Respectfully submitted,



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